

Amendments to the Claims

Please amend the claims as follows:

1. (Currently Amended) A semiconductor device for a receiver having a reference oscillator and a band pass filter, wherein the receiver uses a reference signal generated by the reference oscillator to receive a signal in a predetermined channel bandwidth, the semiconductor device comprising:

a local oscillator for generating a local signal having a local frequency;

a PLL controller connected to the local oscillator for controlling the local frequency in accordance with the reference signal to set the channel bandwidth; [[and]]

a comparator connected to the local oscillator for comparing frequency of the received signal with frequency of the reference signal or phase of the received signal with phase of the reference signal and generating an error signal in accordance with the comparison to correct the local frequency; and

a frequency controller connected to the band pass filter to set a center frequency of the band pass filter using the reference signal.

2. (Original) The semiconductor device according to claim 1, further comprising:

a demodulator for demodulating the received signal to generate a carrier signal, wherein the comparator compares frequency of the carrier signal with frequency of the reference signal or phase of the carrier signal with phase of the reference signal to generate the error signal in accordance with the comparison.

3. (Original) The semiconductor device according to claim 1, wherein the receiver is provided with a transmitting function, and the local oscillator functions as a modulator when the receiver transmits a signal.

4. (Original) The semiconductor device according to claim 1, further comprising:
a signal generator for generating a modulation signal having a frequency corresponding to the error signal; and

a quadrature modulator connected to the signal generator and the local oscillator to modulate the local signal with the modulation signal.

5. (Original) The semiconductor device according to claim 4, wherein the receiver is provided with a transmitting function, and the quadrature modulator functions as a modulator when the receiver transmits a signal.

6. (Currently Amended) A semiconductor device for a receiver having a reference oscillator and a band pass filter, wherein the receiver uses a reference signal generated by the reference oscillator to receive a signal in a predetermined channel bandwidth, the semiconductor device comprising:

a local oscillator for generating a local signal;

a first control loop including the local oscillator for controlling a frequency of the local signal based on the reference signal to set the channel bandwidth; ~~[[and]]~~

a second control loop including the local oscillator for comparing frequency of the received signal with frequency of the reference signal or phase of the received signal with phase of the reference signal and generating an error signal in accordance with the comparison to correct the local frequency; and

a frequency controller connected to the band pass filter to set a center frequency of the band pass filter using the reference signal.

7. (Original) The semiconductor device according to claim 6, further comprising:
a loop switching circuit connected to the local oscillator to selectively validate the first control loop and the second control loop, wherein the loop switching circuit invalidates the first control loop and validates the second control loop after setting the channel bandwidth with the first control loop.

8. (Canceled).

9. (Currently Amended) A semiconductor device for a receiver having a reference oscillator and a band pass filter, wherein the receiver uses a reference signal generated by the reference oscillator to receive a signal of a predetermined channel, the semiconductor device comprising:

a local oscillator for generating a local signal;

a mixer connected to the local oscillator for generating an intermediate frequency signal having a predetermined intermediate frequency with the local signal and the received signal;

a PLL controller connected to the local oscillator for setting a frequency of the local signal with the reference signal to receive the received signal of the predetermined channel; [[and]]

a comparator connected to the local oscillator for comparing a frequency of the intermediate frequency signal with frequency of the reference signal or phase of the intermediate frequency signal with phase of the reference signal and generating an

error signal in accordance with the comparison to correct the frequency of the local signal; and

a frequency controller connected to the band pass filter to set a center frequency of the band pass filter using the reference signal.

10. (Currently Amended) The semiconductor device according to claim 9, ~~further comprising:~~

~~a band pass filter connected to the mixer,~~ wherein the band pass filter has a predetermined passage bandwidth through which the intermediate frequency signal passes; ~~[[and]]~~ the semiconductor device further comprising:

a demodulator connected to the band pass filter for demodulating the intermediate frequency signal to generate a carrier signal, wherein the comparator compares frequency of the carrier signal with frequency of the reference signal or phase of the carrier signal with phase of the reference signal and generates the error signal in accordance with the comparison to correct the frequency of the local signal.

11. (Original) The semiconductor device according to claim 10, further comprising:

a divider connected to the reference oscillator for dividing the reference signal to generate a divisional reference signal, wherein the comparator compares frequency of the carrier signal with frequency of the divisional reference signal or phase of the carrier signal with phase of the divisional reference signal and generates the error signal in accordance with the comparison to correct the frequency of the local signal.

12. (Original) The semiconductor device according to claim 10, further comprising:

a frequency controller connected to the band pass filter and the reference oscillator to set a center frequency of the band pass filter to the intermediate frequency with the reference signal.

13. (Original) The semiconductor device according to claim 9, further comprising:

a switching circuit connected to the local oscillator to selectively connected the PLL control circuit and the comparator to the local oscillator.

14. (Original) The semiconductor device according to claim 9, wherein the receiver is provided with a transmitting function, and the local oscillator functions as a modulator when the receiver transmits a signal.

15. (Currently Amended) A receiver for receiving a signal, the receiver comprising:

a reference oscillator for generating a reference frequency signal having a reference frequency;

a local oscillator for generating a local signal;

a band pass filter having a predetermined passage bandwidth;

a channel setting circuit connected to the reference oscillator and the local oscillator for controlling frequency of the local signal in accordance with the reference frequency signal and setting the passage bandwidth of the band pass filter to a predetermined channel bandwidth; [[and]]

a frequency correction circuit for comparing frequency of the received signal received in the channel bandwidth with frequency of the reference signal or phase of the received signal with phase of the reference signal and generating an error signal in accordance with the comparison to correct the frequency of the local signal; and

a frequency controller connected to the band pass filter to set a center frequency of the band pass filter using the reference signal.

16. (Original) A method for correcting frequency of a local signal in a receiver, wherein the receiver includes a reference oscillator for generating a reference signal having a reference frequency, and a band pass filter, the method comprising:

setting a center frequency of the band pass filter with the reference signal;

generating a local signal for receiving a received signal of a predetermined channel with the reference signal;

generating an intermediate frequency signal having a predetermined intermediate frequency with the received signal and the local signal;

providing the intermediate frequency signal to the band pass filter;

generating an error signal in accordance with a comparison between frequency of the intermediate frequency signal that passed through the band pass filter and frequency of the reference signal or a comparison between phase of the intermediate frequency signal with phase of the reference signal; and

correcting the frequency of the local signal in accordance with the error signal.

17. (Original) The method according to claim 16, wherein said setting a center frequency includes setting the center frequency to the predetermined intermediate frequency.

18. (Original) The method according to claim 17, further comprising:

generating a carrier signal by demodulating the intermediate frequency signal, wherein said generating an error signal includes comparing frequency of the carrier signal with frequency of the reference signal or phase of the carrier signal with phase of the reference signal to generate the error signal in accordance with the comparison.

19. (Original) The method according to claim 18, further comprising:

generating a divisional reference signal by dividing the reference signal, wherein said generating an error signal includes comparing frequency of the carrier signal with frequency of the divisional reference signal or phase of the carrier signal with phase of the divisional reference signal to generate the error signal in accordance with the comparison.